



LIEBHERR

OIL ANALYSIS REPORT



Area
(351064)
Machine Id
122398-1216
Component
Hydraulic System
Fluid
PETRO CANADA HYDREX XV ALL SEASON HYDRAULIC OIL (--- GAL)

WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

RECOMMENDATION

We advise that you check all areas where contaminants can enter the system. We advise that you check for visible metal particles in the oil. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. We suspect that the abnormal contaminant(s) is the result of incorrect sampling technique. DISCLAIMER: Interpretation of results is based on the sample as received from the customer. The condition of the sample and the method of sampling cannot be verified.

WEAR

Light concentration of visible metal present.

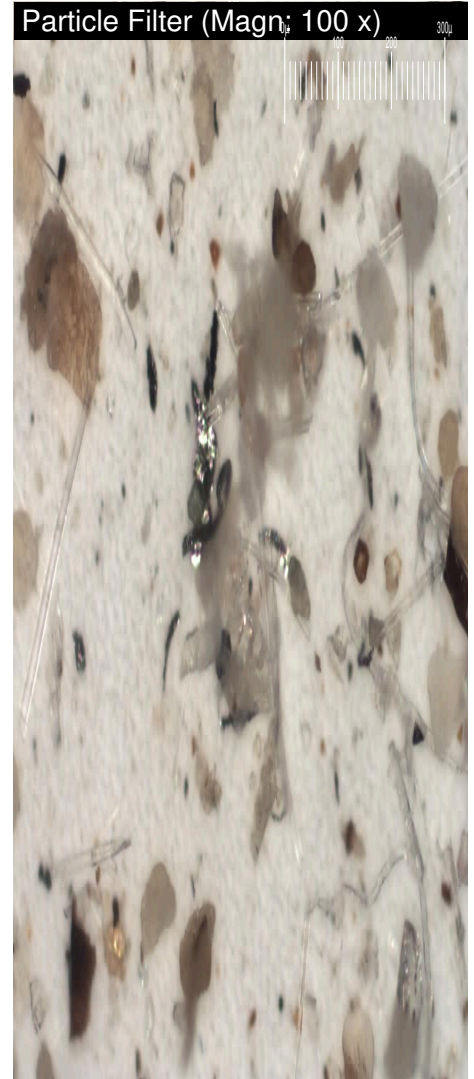
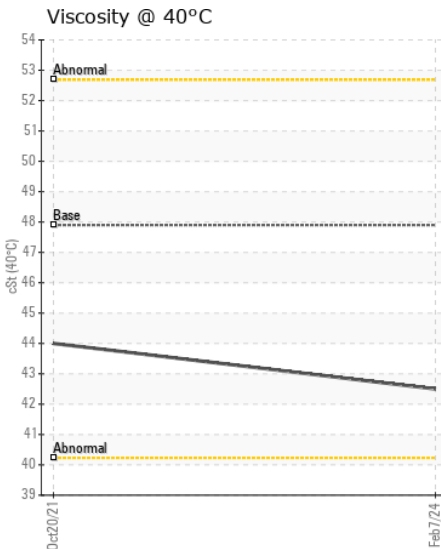
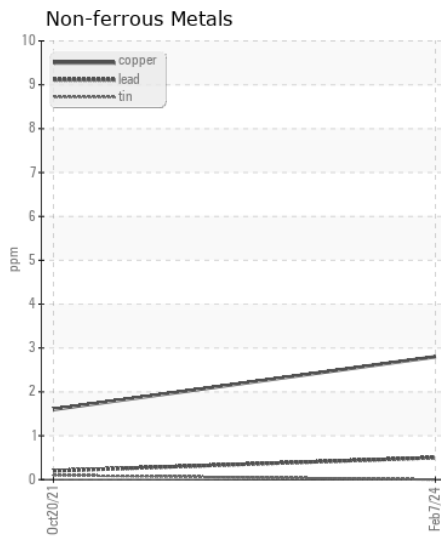
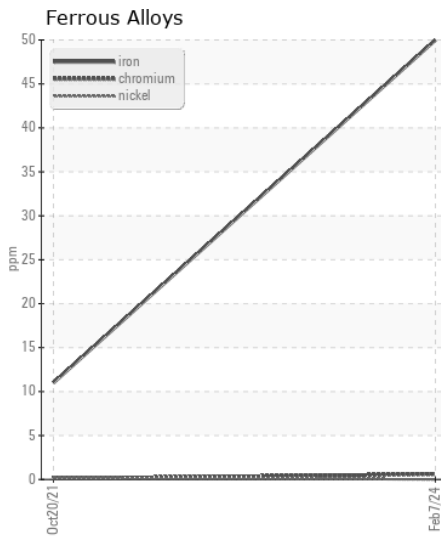
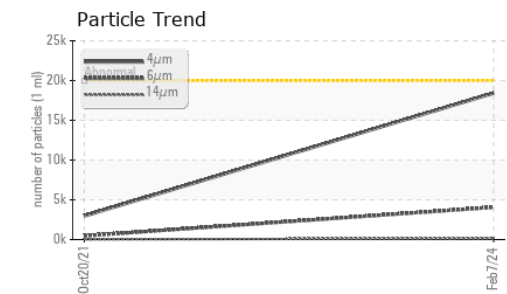
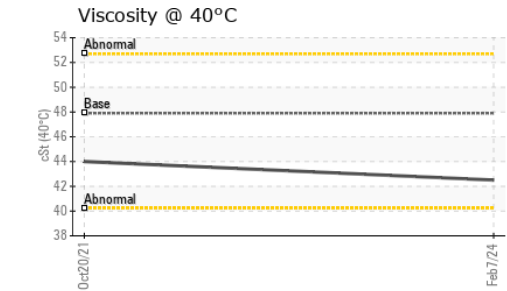
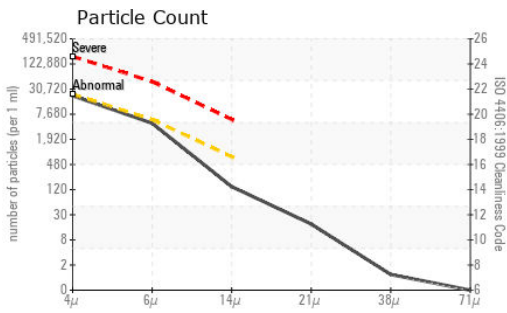
CONTAMINATION

Light concentration of visible dirt/debris present in the oil. The system cleanliness is acceptable for your target ISO 4406 cleanliness code.

FLUID CONDITION

The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0281244	LH0202591	---
Sample Date		Client Info		07 Feb 2024	20 Oct 2021	---
Machine Age	hrs	Client Info		5387	584	---
Oil Age	hrs	Client Info		0	0	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		Changed	Changed	---
Filter Changed		Client Info		N/A	N/A	---
Sample Status				ABNORMAL	NORMAL	---
Iron	ppm	ASTM D5185(m)	>60	50	11	---
Chromium	ppm	ASTM D5185(m)	>40	<1	<1	---
Nickel	ppm	ASTM D5185(m)	>10	0	<1	---
Titanium	ppm	ASTM D5185(m)		0	0	---
Silver	ppm	ASTM D5185(m)		0	0	---
Aluminum	ppm	ASTM D5185(m)	>5	<1	<1	---
Lead	ppm	ASTM D5185(m)	>5	<1	<1	---
Copper	ppm	ASTM D5185(m)	>15	3	2	---
Tin	ppm	ASTM D5185(m)	>5	0	<1	---
Vanadium	ppm	ASTM D5185(m)		0	0	---
White Metal	scalar	Visual*	NONE	▲ LIGHT	NONE	---
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	---
Silicon	ppm	ASTM D5185(m)	>15	<1	<1	---
Potassium	ppm	ASTM D5185(m)	>20	<1	1	---
Water		WC Method	>0.1	NEG	NEG	---
Particles >4µm		ASTM D7647	>20000	18425	2965	---
Particles >6µm		ASTM D7647	>5000	4069	472	---
Particles >14µm		ASTM D7647	>640	125	23	---
Particles >21µm		ASTM D7647	>160	16	4	---
Particles >38µm		ASTM D7647	>40	1	0	---
Particles >71µm		ASTM D7647	>10	0	0	---
Oil Cleanliness		ISO 4406 (c)	>21/19/16	21/19/14	19/16/12	---
Silt	scalar	Visual*	NONE	VLITE	NONE	---
Debris	scalar	Visual*	NONE	▲ LIGHT	NONE	---
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	---
Appearance	scalar	Visual*	NORML	NORML	NORML	---
Odor	scalar	Visual*	NORML	NORML	NORML	---
Emulsified Water	scalar	Visual*	>0.1	NEG	NEG	---
Sodium	ppm	ASTM D5185(m)		<1	<1	---
Boron	ppm	ASTM D5185(m)	0	<1	<1	---
Barium	ppm	ASTM D5185(m)	0	0	0	---
Molybdenum	ppm	ASTM D5185(m)	0	0	<1	---
Manganese	ppm	ASTM D5185(m)	1	<1	<1	---
Magnesium	ppm	ASTM D5185(m)	0	4	5	---
Calcium	ppm	ASTM D5185(m)	100	555	944	---
Phosphorus	ppm	ASTM D5185(m)	670	637	601	---
Zinc	ppm	ASTM D5185(m)	850	752	677	---
Sulfur	ppm	ASTM D5185(m)	1600	2756	3473	---
Visc @ 40°C	cSt	ASTM D7279(m)	47.9	42.5	44.0	---



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0281244 **Received** : 01 Mar 2024
Lab Number : 02619308 **Tested** : 04 Mar 2024
Unique Number : 5736418 **Diagnosed** : 04 Mar 2024 - Kevin Marson
Test Package : MOB 1 (Additional Tests: Bottom, BottomAnalysis, FilterPatch, PrtCount, POC)

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To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.